

Robots for Human Exploration

New ways of exploring the Moon, Mars & beyond

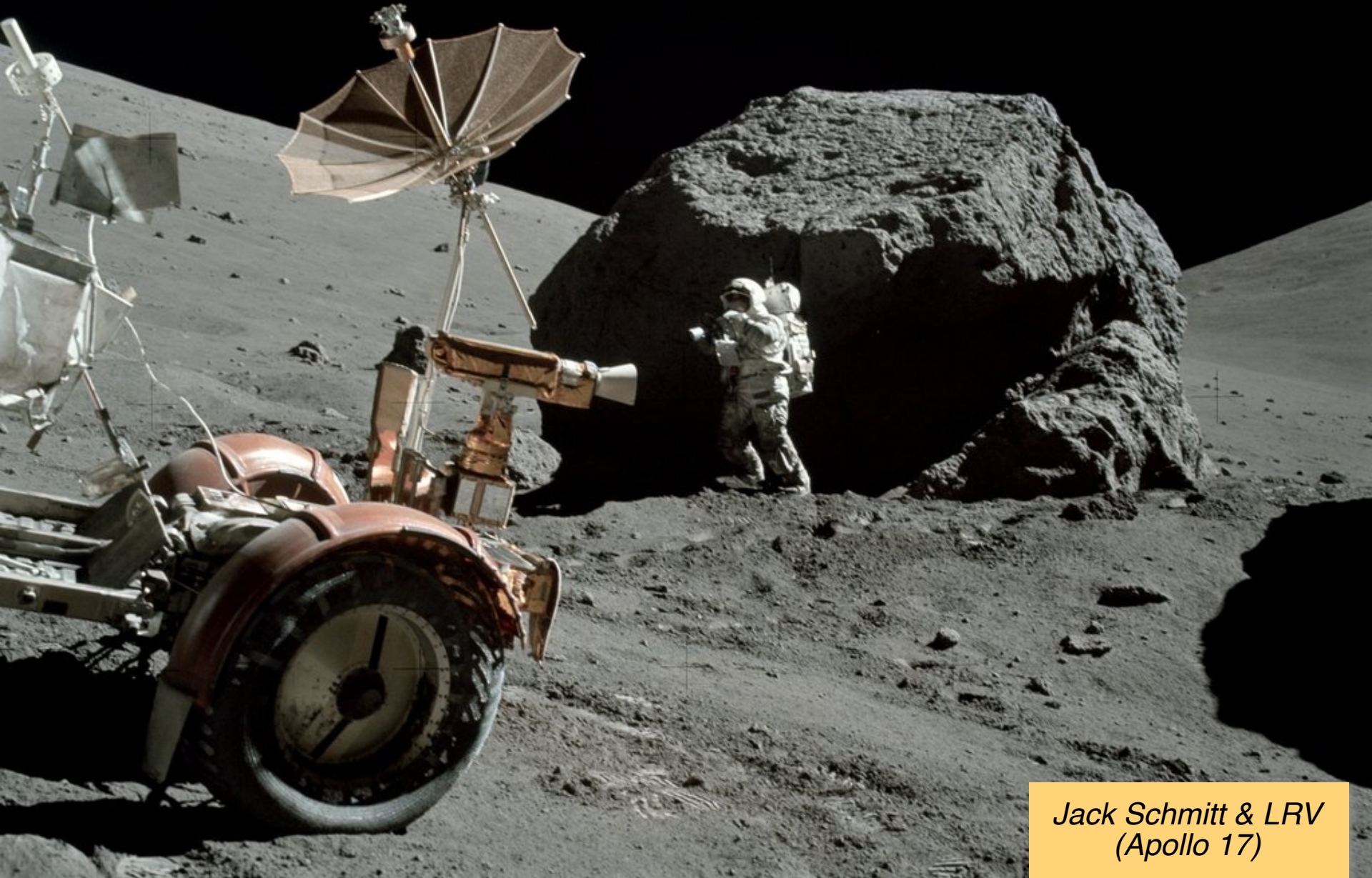


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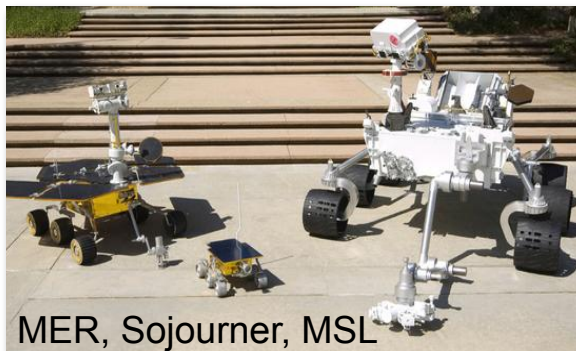
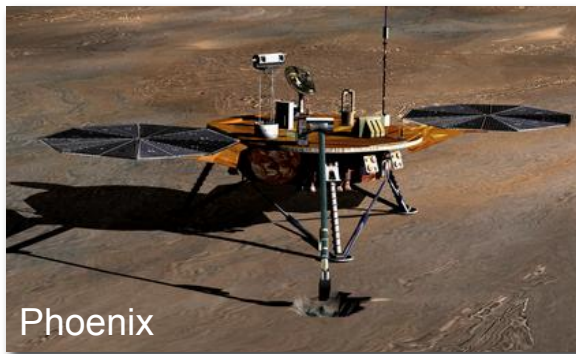
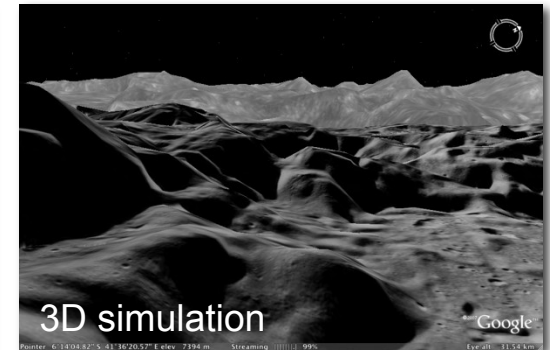
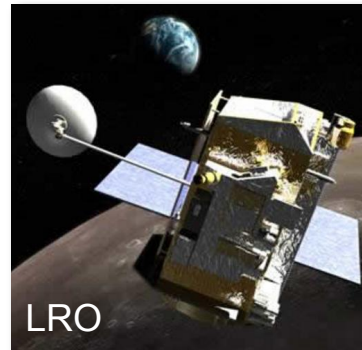
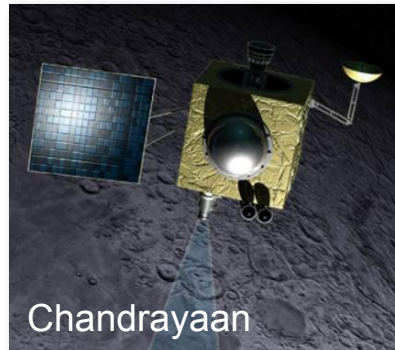
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Apollo Surface Operations



*Jack Schmitt & LRV
(Apollo 17)*

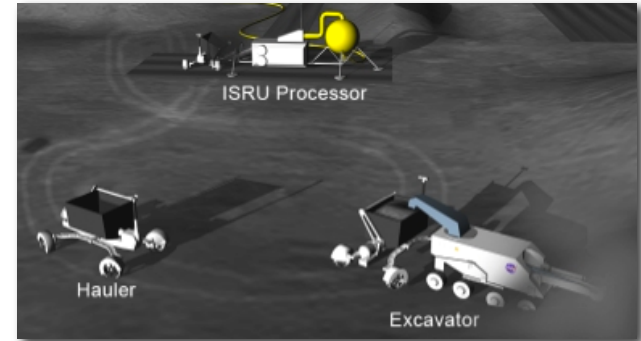
What's changed since Apollo?



Robots for human exploration

Before Crew

- Robots do work before humans arrive
- Scouting, prospecting, etc.
- Site prep., equipment deploy, etc.



Supporting Crew

- Robots work in parallel with humans
- Inspection, mobile camera, etc.
- Heavy transport & mobility



After Crew

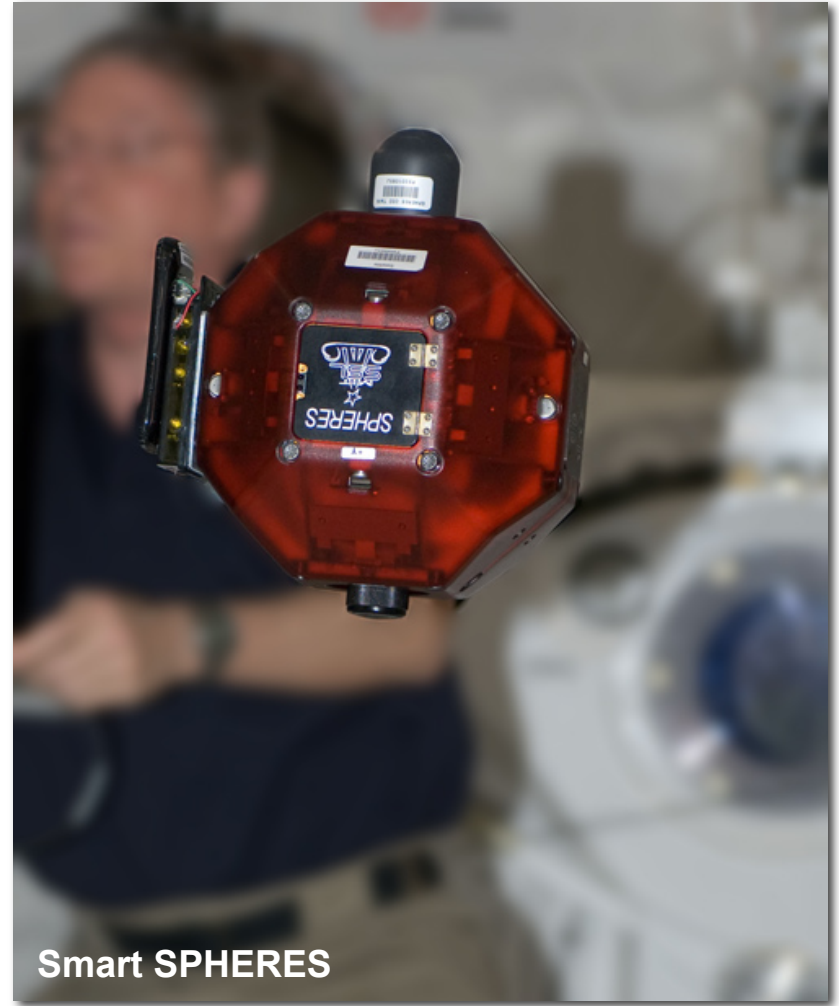
- Robots do work after humans leave
- Follow-up & close-out work
- Site survey, supplementary tasks, etc.



Different robots... Different forms...



K10 Planetary Rover



Smart SPHERES

K10 Planetary Rover

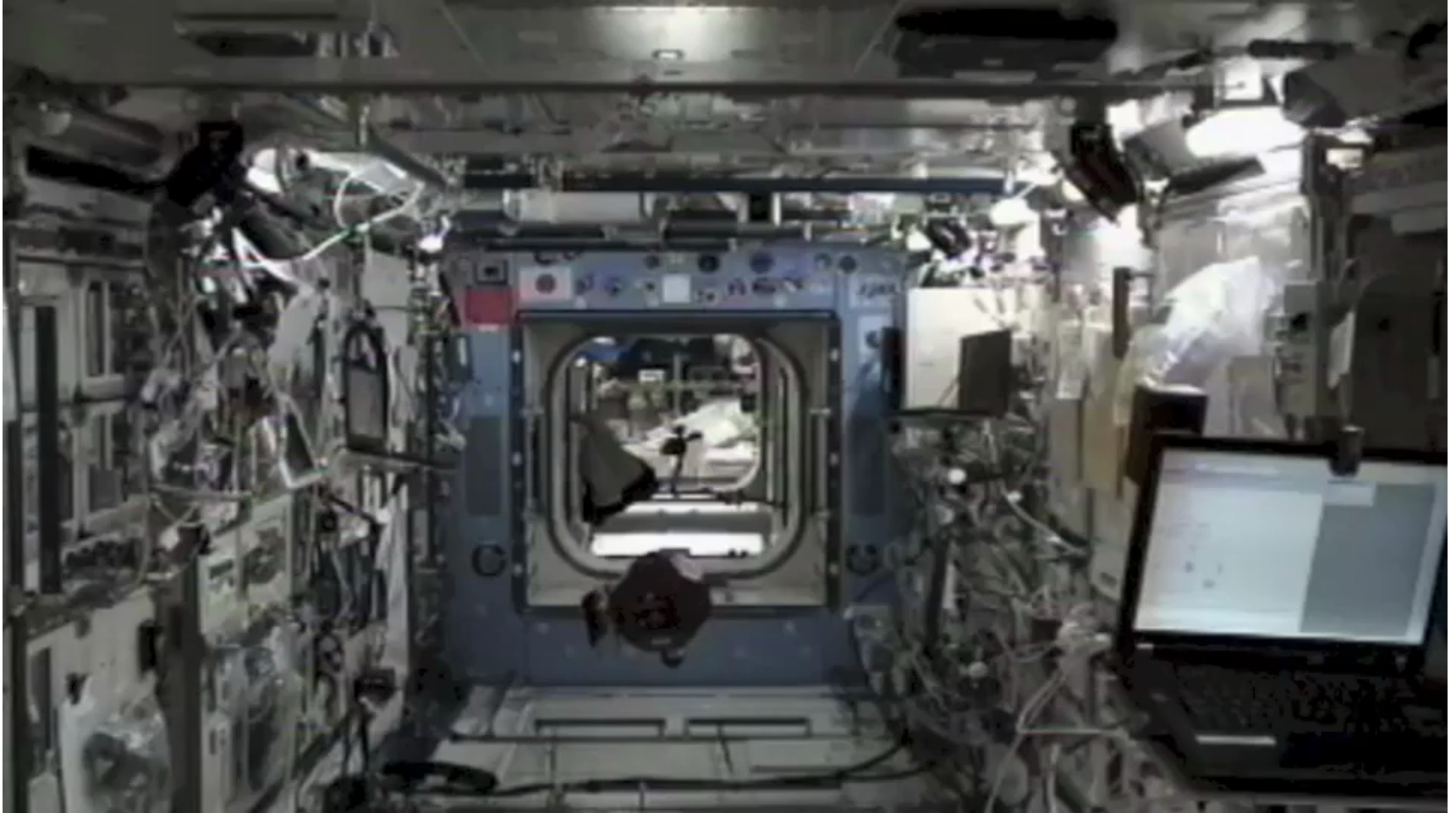


July 25, 2010
Haughton Crater, Devon Island, Canada



Robots for Human Exploration

Smart SPHERES



December 12, 2012
Kibo Laboratory, International Space Station

2x speed



Questions?



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